

- U.S. Application Serial No. 09/980,146
- Atty. Docket No. 10191/2063
- Reply to Office Action of February 15, 2008

LISTING OF THE CLAIMS:

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

- 1-5. (Canceled).
6. (Previously Presented) A method for a motor vehicle having an adaptive distance and speed control for lane allocation of vehicles on multi-lane roads, comprising:
 - carrying out the lane allocation in a model-based manner via a frequency distribution of lateral displacements of detected radar objects by:
 - correlating the frequency distribution with one of (a) stored models for frequency distributions of lateral displacements, relating to lane allocation for multi-lane roads having a defined width and (b) characteristic lateral displacement histograms for different lanes used by a succeeding vehicle; and
 - outputting a model part having a highest correlation to the frequency distribution as a lane hypothesis.
7. (Currently Amended) A device comprising:

[[means]] a lane allocation arrangement for carrying out a lane allocation in a model-based manner via a frequency distribution of lateral displacements of detected radar objects; and

[[means]] a correlating arrangement for correlating a determined frequency distribution with one of (a) stored models for frequency distributions of lateral displacements, relating to lane allocation for multi-lane roads having a defined width and (b) characteristic lateral displacement histograms for different lanes used by a succeeding vehicle.
8. (Currently Amended) The device according to claim 7, further comprising:

an outputting arrangement [[means]] for outputting a model part having a highest correlation to the determined frequency distribution as a lane hypothesis, the lane hypothesis including a number of lanes and a lane used by one's own vehicle.
9. (Withdrawn) A method for detecting a misalignment of a sensor on the basis of reflection, comprising:

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detecting a horizontal misalignment from a position of average values for lanes in a histogram with respect to a vehicle axis.

10. (Withdrawn) A device comprising:

means for storing, with equivalent object treatment, a first histogram for a lateral displacement of a detected object and a second histogram for a distance of a detected object; and

means for determining a misalignment angle of a sensor by determining a centroid of the first and second histograms.

11. (Previously Presented) A method for performing lane allocation of consecutive vehicles on a multi-lane road, the method comprising:

determining lateral displacements of radar sensor detected objects relative to a longitudinal vehicle axis, wherein the lane allocation is implemented in a model-based manner via a frequency distribution of the lateral displacements of the radar sensor detected objects;

determining a histogram of a frequency distribution of the lateral displacements;

correlating the histogram to stored lane models; and

detecting an instantaneously driven lane of the multi-lane roadway based on a lane model having a greatest correlation to a laterally-offset histogram.

12. (New) The method of claim 11, wherein the frequency distribution is correlated with stored models for frequency distributions of lateral displacements, relating to lane allocation for multi-lane roads having a defined width.

13. (New) The method of claim 11, wherein the frequency distribution is correlated with the characteristic lateral displacement histograms for different lanes used by a succeeding vehicle.

14. (New) The method of claim 6, wherein the frequency distribution is correlated with the stored models for frequency distributions of lateral displacements, relating to lane allocation for multi-lane roads having a defined width.

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15. (New) The method of claim 6, wherein the frequency distribution is correlated with the characteristic lateral displacement histograms for different lanes used by a succeeding vehicle.